



# Crude Oil Sour

Safety Data Sheet

SDS No: 6608

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

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## SECTION 1: IDENTIFICATION

### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** Crude Oil Sour

**Synonyms:** Crude Petroleum

### 1.2. Intended Use of the Product

A natural product derived from various oil production fields primarily consisting of a complex combination of paraffinic and aromatic hydrocarbons and small amounts of nitrogen and sulfur compounds.

### 1.3. Name, Address, and Telephone of the Responsible Party

#### Customer

Hess Tower  
1501 McKinney  
Houston, TX 77010  
T:(713) 496-4000

When calling the main operator ask for the EHS Safety Department. All Hess SDSs are also available via the [Hess.com](http://Hess.com) website.

### 1.4. Emergency Telephone Number

**Emergency Number** : (800) 424-9300 CHEMTREC (24 hours)

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the Substance or Mixture

#### GHS-US/CA Classification

Flam. Liq. 2	H225
Acute Tox. 4 (Inhalation:gas)	H332
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
Carc. 1B	H350
Repr. 2	H361
STOT SE 3	H336
STOT SE 3	H335
STOT RE 2	H373
Asp. Tox. 1	H304
Aquatic Acute 1	H400
Aquatic Chronic 2	H411

Full text of hazard classes and H-statements : see Section 16.

### 2.2. Label Elements

#### GHS-US/CA Labeling

##### Hazard Pictograms (GHS-US/CA)



##### Signal Word (GHS-US/CA)

: Danger

##### Hazard Statements (GHS-US/CA)

: H225 - Highly flammable liquid and vapor.  
H304 - May be fatal if swallowed and enters airways.  
H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.

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H332 - Harmful if inhaled.  
H335 - May cause respiratory irritation.  
H336 - May cause drowsiness or dizziness.  
H350 - May cause cancer.  
H361 - Suspected of damaging fertility or the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure.  
H400 - Very toxic to aquatic life.  
H411 - Toxic to aquatic life with long lasting effects.

**Precautionary Statements (GHS-US/CA) :** P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P233 - Keep container tightly closed.  
P240 - Ground/bond container and receiving equipment.  
P241 - Use explosion-proof electrical, ventilating, and lighting equipment.  
P242 - Use only non-sparking tools.  
P243 - Take action to prevent static discharges.  
P260 - Do not breathe gas, vapors, mist, or spray.  
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves, protective clothing, and eye protection.  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.  
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P312 - Call a POISON CENTER or doctor if you feel unwell.  
P314 - Get medical advice/attention if you feel unwell.  
P321 - Specific treatment (see Section 4 on this SDS).  
P331 - Do NOT induce vomiting.  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P362+P364 - Take off contaminated clothing and wash it before reuse.  
P370+P378 - In case of fire: Use appropriate media (see Section 5) to extinguish.  
P391 - Collect spillage.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local, regional, national, provincial, territorial and international regulations.

### 2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition temperature. Hydrogen sulfide is a toxic gas that can be fatal. It also has a rotten egg smell that causes odor fatigue very quickly and should not be used as an indicator for the presence of gas. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide.

### 2.4. Unknown Acute Toxicity (GHS-US/CA)

No data available

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.2. Mixture

Name	Product Identifier	% *	GHS Ingredient Classification
Petroleum	(CAS-No.) 8002-05-9	100	Flam. Liq. 1, H224 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 1B, H350 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
<b>Contains:</b>			
Name	Product Identifier	% *	GHS Ingredient Classification
Sulfur	(CAS-No.) 7704-34-9	<= 1	Skin Irrit. 2, H315 Aquatic Acute 3, H402 Comb. Dust
Ethylbenzene	(CAS-No.) 100-41-4	0.1 - 7	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:vapor), H332 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Hydrogen sulfide	(CAS-No.) 7783-06-4	0.1 - 7	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Acute Tox. 2 (Inhalation:gas), H330 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400
Toluene	(CAS-No.) 108-88-3	0.1 - 7	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 3, H412
Xylenes (o-, m-, p- isomers)	(CAS-No.) 1330-20-7	0.1 - 7	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapor), H332 Skin Irrit. 2, H315 STOT SE 3, H336 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Acute 2, H401
Naphthalene	(CAS-No.) 91-20-3	0.1 - 7	Flam. Sol. 2, H228 Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Comb. Dust

Full text of H-phrases: see Section 16.

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\*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

### SECTION 4: FIRST AID MEASURES

#### 4.1. Description of First-aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

**Ingestion:** Do NOT induce vomiting. Rinse mouth. Immediately call a POISON CENTER or doctor/physician.

#### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**General:** Causes serious eye irritation. Causes skin irritation. May cause drowsiness and dizziness. May cause respiratory irritation. Suspected of damaging fertility or the unborn child. May cause cancer. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways. Harmful if inhaled.

**Inhalation:** Harmful if inhaled. High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms. Respiratory tract irritation. Hydrogen sulfide may cause respiratory paralysis.

**WARNING:** The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

**Skin Contact:** Redness, pain, swelling, itching, burning, dryness, and dermatitis.

**Eye Contact:** Contact causes severe irritation with redness and swelling of the conjunctiva.

**Ingestion:** Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

**Chronic Symptoms:** Suspected of damaging fertility. Suspected of damaging the unborn child. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs. Contains trace amounts of benzene, a regulated human carcinogen. Benzene has the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with systemic toxicity. See also Section 11 – Toxicological Information. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

#### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

### SECTION 5: FIRE-FIGHTING MEASURES

#### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO<sub>2</sub>). Water may be ineffective but water should be used to keep fire-exposed container cool.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. A heavy water stream may spread burning liquid.

#### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Highly flammable liquid and vapor. Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

**Explosion Hazard:** May form flammable or explosive vapor-air mixture. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

**Reactivity:** Reacts violently with strong oxidizers. Increased risk of fire or explosion.

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### 5.3. Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire. If heat from burning crude oil reaches water layer at bottom of storage tank, explosive boil-over can occur.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Small fires in the incipient stage may typically be extinguished using handheld portable fire extinguishers and other firefighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke, or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full face piece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish fire, often including the need for properly applied firefighting foam.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Carbon oxides (CO, CO<sub>2</sub>). Black smoke. Toxic fumes may be released. Sulfur oxides.

**Other Information:** Do not allow run-off from fire fighting to enter drains or water courses.

#### Reference to Other Sections

Refer to Section 9 for flammability properties.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Do not get in eyes, on skin, or on clothing. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Use special care to avoid static electric charges. Do not breathe gas, vapors, mist, or spray. Do not handle until all safety precautions have been read and understood. Avoid all contact with skin, eyes, or clothing.

#### 6.1.1. For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protective equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel. Stop leak if safe to do so.

#### 6.1.2. For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection. Use supplied air respiratory protection if hydrogen sulfide above 10 ppm. Use buddy system if hydrogen sulfide is above 100 ppm.

**Emergency Procedures:** Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

Ventilate area. Eliminate ignition sources.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment. Collect spillage.

### 6.3. Methods and Materials for Containment and Cleaning Up

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

**Methods for Cleaning Up:** Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of firefighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal – caution, flammable vapors may accumulate in closed containers.

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

### 6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

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### SECTION 7: HANDLING AND STORAGE

#### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Do not pressurize, cut, or weld containers. Flammable vapors may accumulate in the head space of closed systems. Container may remain hazardous when empty. Handle empty containers with care because residual vapors are flammable. All crudes contain varying amounts of sulfur. Contains hydrogen sulfide which is an asphyxiant gas, and can be fatal. Hydrogen sulfide may cause damage to the blood, central nervous system, and cardiovascular system. High concentrations of this gas can cause unconsciousness and death. Has rotten egg smell but is not a good indicator of the presence of gas as olfactory fatigue (loss of smell) occurs rapidly. Under certain conditions and heating it may be possible to further levels of hydrogen sulfide may be released. Take appropriate precautions and follow applicable regulations.

#### Naturally Occurring Radioactive Material (NORM):

Industry experience indicates that this material may contain small amounts of uranium, thorium, and their decay products. These naturally-occurring radioactive materials (called NORM) can accumulate in process equipment, particularly equipment which handles the water associated with crude oil production. Scales, deposits, and sludge from this equipment may have a significant accumulation of NORM. Gamma radiation above background may be detected external to equipment contaminated with NORM; such equipment should be assumed to be internally contaminated with long half-life decay products that emit alpha radiation, which is a radiation hazard if inhaled. Steps should be taken to minimize skin and inhalation to NORM dusts/mists by wearing personal protective clothing [such as disposable Tyvek (DuPont)], utilizing respiratory protection (minimum of a HEPA filter), and practicing good personal hygiene. Please refer to API bulletin E2, "Bulletin on Management of Naturally Occurring Radioactive Materials in Oil and Gas Production", March 1, 2006 for additional information on managing NORM.

#### Possible Metal Corrosion:

Sour crude can contain varying concentrations of dissolved hydrocarbon gas, carbon dioxide, salts, organic acids and a water phase. Depending on the storage and handling conditions the water present may be oxygenated and contain carbon dioxide from contact with the air and the oil. The water phase will typically be a slightly acidic brine of varying concentrations and oxygen content and depending upon the metallurgy (example: tank, vessel, piping) and the temperature of the crude it's possible that pitting corrosion of certain metals (example: carbon steel) or galvanic corrosion of dissimilar metals could occur.

**Precautions for Safe Handling:** Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid contact with eyes, skin and clothing. Do not breathe gas/mist/vapors/spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Avoid contact with skin, eyes and clothing.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

#### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment.

**Storage Conditions:** Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Keep in fireproof place.

**Incompatible Materials:** Oxidizing agents, metallic oxides, oxygen, halogens, halogenated derivatives, nitrogenous derivatives, strong acids and bases, anhydrides, alkali metals, free radical generators, polymerizable products, acetaldehyde, copper, rust.

**Special Rules on Packaging:** Recommended: steel in absence of moisture, stainless steel, polytetrafluoroethylene (PTFE) seals recommended. To be avoided: Copper and copper alloys.

#### 7.3. Specific End Use(s)

A natural product derived from various oil production fields primarily consisting of a complex combination of paraffinic and aromatic hydrocarbons and small amounts of nitrogen and sulfur compounds.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control Parameters

For substances listed in Section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

Petroleum (8002-05-9)		
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	500 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>

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<b>USA NIOSH</b>	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup> (15 min)
<b>USA IDLH</b>	US IDLH (ppm)	1100 ppm (10% LEL)
<b>Naphthalene (91-20-3)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	10 ppm
<b>USA ACGIH</b>	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	Parameter: 1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis - Sampling time: end of shift (nonquantitative, nonspecific)
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	10 ppm
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (ppm)	10 ppm
<b>USA NIOSH</b>	NIOSH REL (STEL) (mg/m <sup>3</sup> )	75 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (STEL) (ppm)	15 ppm
<b>USA IDLH</b>	US IDLH (ppm)	250 ppm
<b>Alberta</b>	OEL STEL (mg/m <sup>3</sup> )	79 mg/m <sup>3</sup>
<b>Alberta</b>	OEL STEL (ppm)	15 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	10 ppm
<b>British Columbia</b>	OEL STEL (ppm)	15 ppm
<b>British Columbia</b>	OEL TWA (ppm)	10 ppm
<b>Ontario</b>	OEL STEL (ppm)	15 ppm (in force until January 1, 2018)
<b>Ontario</b>	OEL TWA (ppm)	10 ppm
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	79 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	15 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	52 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	10 ppm
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	100 ppm
<b>USA ACGIH</b>	ACGIH STEL (ppm)	150 ppm
<b>USA ACGIH</b>	ACGIH chemical category	Not Classifiable as a Human Carcinogen
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	1.5 g/g Kreatinin Parameter: Methylhippuric acids - Medium: urine - Sampling time: end of shift
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	100 ppm
<b>Alberta</b>	OEL STEL (mg/m <sup>3</sup> )	651 mg/m <sup>3</sup>
<b>Alberta</b>	OEL STEL (ppm)	150 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	100 ppm
<b>British Columbia</b>	OEL STEL (ppm)	150 ppm
<b>British Columbia</b>	OEL TWA (ppm)	100 ppm
<b>Ontario</b>	OEL STEL (ppm)	150 ppm
<b>Ontario</b>	OEL TWA (ppm)	100 ppm
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	651 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	150 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	100 ppm
<b>Toluene (108-88-3)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	20 ppm

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<b>USA ACGIH</b>	ACGIH chemical category	Not Classifiable as a Human Carcinogen
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	0.02 mg/l Parameter: Toluene - Medium: blood - Sampling time: prior to last shift of workweek 0.03 mg/l Parameter: Toluene - Medium: urine - Sampling time: end of shift 0.3 mg/g Kreatinin Parameter: o-Cresol with hydrolysis - Medium: urine - Sampling time: end of shift (background)
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	200 ppm
<b>USA OSHA</b>	OSHA PEL (Ceiling) (ppm)	300 ppm
<b>USA OSHA</b>	Acceptable Maximum Peak Above The Acceptable Ceiling Concentration For An 8-Hr Shift	500 ppm Peak (10 minutes)
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	375 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (ppm)	100 ppm
<b>USA NIOSH</b>	NIOSH REL (STEL) (mg/m <sup>3</sup> )	560 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (STEL) (ppm)	150 ppm
<b>USA IDLH</b>	US IDLH (ppm)	500 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	188 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	50 ppm
<b>British Columbia</b>	OEL TWA (ppm)	20 ppm
<b>Ontario</b>	OEL TWA (ppm)	20 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	188 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	50 ppm
<b>Ethylbenzene (100-41-4)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	20 ppm
<b>USA ACGIH</b>	ACGIH chemical category	Confirmed Animal Carcinogen with Unknown Relevance to Humans
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	0.15 g/g Kreatinin Parameter: Sum of mandelic acid and phenylglyoxylic acid - Medium: urine - Sampling time: end of shift (nonspecific)
<b>USA OSHA</b>	OSHA PEL (TWA) (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	100 ppm
<b>USA NIOSH</b>	NIOSH REL (TWA) (mg/m <sup>3</sup> )	435 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (TWA) (ppm)	100 ppm
<b>USA NIOSH</b>	NIOSH REL (STEL) (mg/m <sup>3</sup> )	545 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (STEL) (ppm)	125 ppm
<b>USA IDLH</b>	US IDLH (ppm)	800 ppm (10% LEL)
<b>Alberta</b>	OEL STEL (mg/m <sup>3</sup> )	543 mg/m <sup>3</sup>
<b>Alberta</b>	OEL STEL (ppm)	125 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	100 ppm
<b>British Columbia</b>	OEL TWA (ppm)	20 ppm
<b>Ontario</b>	OEL TWA (ppm)	20 ppm
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	543 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	125 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	434 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	100 ppm
<b>Hydrogen sulfide (7783-06-4)</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	1 ppm
<b>USA ACGIH</b>	ACGIH STEL (ppm)	5 ppm
<b>USA OSHA</b>	OSHA PEL (Ceiling) (ppm)	20 ppm

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<b>USA OSHA</b>	Acceptable Maximum Peak Above The Acceptable Ceiling Concentration For An 8-Hr Shift	50 ppm Peak (10 minutes once, only if no other measurable exposure occurs)
<b>USA NIOSH</b>	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL (ceiling) (ppm)	10 ppm
<b>USA IDLH</b>	US IDLH (ppm)	100 ppm
<b>Alberta</b>	OEL Ceiling (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
<b>Alberta</b>	OEL Ceiling (ppm)	15 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	10 ppm
<b>British Columbia</b>	OEL Ceiling (ppm)	10 ppm
<b>Ontario</b>	OEL STEL (ppm)	15 ppm
<b>Ontario</b>	OEL TWA (ppm)	10 ppm
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	21 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	15 ppm
<b>Québec</b>	VEMP (mg/m <sup>3</sup> )	14 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (ppm)	10 ppm
<b>Sulfur (7704-34-9)</b>		
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
<b>Benzene (71-43-2) *Trace Amounts</b>		
<b>USA ACGIH</b>	ACGIH TWA (ppm)	0.5 ppm
<b>USA ACGIH</b>	ACGIH STEL (ppm)	2.5 ppm
<b>USA ACGIH</b>	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Human Carcinogen
<b>USA ACGIH</b>	Biological Exposure Indices (BEI)	25 µg/g Kreatinin Parameter: S-Phenylmercapturic acid - Medium: urine - Sampling time: end of shift (background) 500 µg/g Kreatinin Parameter: t,t-Muconic acid - Medium: urine - Sampling time: end of shift (background)
<b>USA OSHA</b>	OSHA PEL (TWA) (ppm)	10 ppm 1 ppm
<b>USA OSHA</b>	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1028)
<b>USA OSHA</b>	OSHA PEL (Ceiling) (ppm)	25 ppm
<b>USA OSHA</b>	Acceptable Maximum Peak Above The Acceptable Ceiling Concentration For An 8-Hr Shift	50 ppm Peak (10 minutes)
<b>USA NIOSH</b>	NIOSH REL (TWA) (ppm)	0.1 ppm
<b>USA NIOSH</b>	NIOSH REL (STEL) (ppm)	1 ppm
<b>USA IDLH</b>	US IDLH (ppm)	500 ppm
<b>Alberta</b>	OEL STEL (mg/m <sup>3</sup> )	8 mg/m <sup>3</sup>
<b>Alberta</b>	OEL STEL (ppm)	2.5 ppm
<b>Alberta</b>	OEL TWA (mg/m <sup>3</sup> )	1.6 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA (ppm)	0.5 ppm
<b>British Columbia</b>	OEL STEL (ppm)	2.5 ppm
<b>British Columbia</b>	OEL TWA (ppm)	0.5 ppm
<b>Ontario</b>	OEL STEL (ppm)	2.5 ppm (applies to workplaces to which the designated substance regulation does not apply) 2.5 ppm (designated substances regulation)
<b>Ontario</b>	OEL TWA (ppm)	0.5 ppm (applies to workplaces to which the designated substances regulation does not apply) 0.5 ppm (designated substances regulation)
<b>Québec</b>	VECD (mg/m <sup>3</sup> )	15.5 mg/m <sup>3</sup>
<b>Québec</b>	VECD (ppm)	5 ppm

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Québec	VEMP (mg/m <sup>3</sup> )	3 mg/m <sup>3</sup>
Québec	VEMP (ppm)	1 ppm

### 8.2. Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment.

**Personal Protective Equipment:** Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics. Wear fire/flamm resistant/retardant clothing.

**Hand Protection:** Wear protective gloves.

**Eye and Face Protection:** Chemical safety goggles.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** Whenever workplace conditions warrant the use of a respirator, a respiratory protection program should be followed that meets or exceeds OSHA 29 CFR 1910.134 and ANSI Z.88.2. Only respirators approved by NIOSH should be selected for use. Protection provided by air-purifying respirators is limited. API recommends the uses of a SCBA or positive pressure/ pressure demand respirator for atmospheric that exceed 10 PPM H<sub>2</sub>S or 2 PPM SO<sub>2</sub>, see API RP 55. Crude oil vapors can displace air causing an oxygen deficient atmosphere. Entry into an oxygen deficient environment can only be made using: 1) a full face piece pressure demand self-contained breathing apparatus (SCBA) with a minimum service life of thirty minutes, or 2) a combination full face piece pressure demand supplied-air respirator with an auxiliary self-contained air supply. A level of H<sub>2</sub>S gas at or above 100 ppm is Immediately Dangerous to Life and Health (IDLH). Entry into IDLH atmospheres can only be made using: 1) a full face piece pressure demand self-contained breathing apparatus (SCBA) with a minimum service life of thirty minutes, or 2) a combination full face piece pressure demand supplied-air respirator with an auxiliary self-contained air supply. Entry into IDLH atmospheres require the use of the Buddy System, see OSHA 1910.120.

**Other Information:** When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Thick, Dark Yellow to Brown or Greenish Black
Odor	: Characteristic, petroleum/asphalt-type odor. Hydrogen sulfide (H <sub>2</sub> S) has a rotten egg "sulfurous" odor. This odor should not be used as a warning property of toxic levels because H <sub>2</sub> S can overwhelm and deaden the sense of smell. Also, the odor of H <sub>2</sub> S in heavy oils can easily be masked by the petroleum-like odor of the oil. Therefore, the smell of H <sub>2</sub> S should not be used as an indicator of a hazardous condition - a H <sub>2</sub> S meter or colorimetric indicating tubes are typically used to determine the concentration of H <sub>2</sub> S.
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Variable
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: > 260 °C (> 500 °F)
Flash Point	: < (23 - 93) °C (73.4 - 199.4) °F
Auto-ignition Temperature	: Not available
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not applicable
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available

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Vapor Pressure	: Not available
Relative Vapor Density at 20°C	: 3 - 5
Relative Density	: Not available
Specific Gravity	: AP 0.7 - 0.9 (Water = 1)
Solubility	: Insoluble in water
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

## SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Reacts violently with strong oxidizers. Increased risk of fire or explosion.
- 10.2. Chemical Stability:** Highly flammable liquid and vapor. May form flammable or explosive vapor-air mixture.
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization can occur. May polymerize violently or explosively if contaminated or overheated.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.
- 10.5. Incompatible Materials:** Oxidizing agents, metallic oxides, oxygen, halogens, halogenated derivatives, nitrogenous derivatives, strong acids and bases, anhydrides, alkali metals, free radical generators, polymerizable products, acetaldehyde, copper, rust.
- 10.6. Hazardous Decomposition Products:** Chromic anhydride, nitrogen iodide.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on Toxicological Effects - Product

**Acute Toxicity (Oral):** Not classified

**Acute Toxicity (Dermal):** Not classified

**Acute Toxicity (Inhalation):** Inhalation:gas: Harmful if inhaled.

#### LD50 and LC50 Data:

Crude Oil Sour	
ATE US/CA (gas)	6,342.86 ppmV/4h

**Skin Corrosion/Irritation:** Causes skin irritation.

**Eye Damage/Irritation:** Causes serious eye irritation.

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** May cause cancer.

**Specific Target Organ Toxicity (Repeated Exposure):** May cause damage to organs through prolonged or repeated exposure.

**Reproductive Toxicity:** Suspected of damaging fertility or the unborn child.

**Specific Target Organ Toxicity (Single Exposure):** May cause drowsiness or dizziness. May cause respiratory irritation.

**Aspiration Hazard:** May be fatal if swallowed and enters airways.

**Symptoms/Injuries After Inhalation:** Harmful if inhaled. High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms. Respiratory tract irritation. Hydrogen sulfide may cause respiratory paralysis.

**WARNING:** The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

**Symptoms/Injuries After Skin Contact:** Redness, pain, swelling, itching, burning, dryness, and dermatitis.

**Symptoms/Injuries After Eye Contact:** Contact causes severe irritation with redness and swelling of the conjunctiva.

**Symptoms/Injuries After Ingestion:** Aspiration into the lungs can occur during ingestion or vomiting and may cause lung injury.

**Chronic Symptoms:** Suspected of damaging fertility. Suspected of damaging the unborn child. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin and other organs.

### 11.2. Information on Toxicological Effects - Ingredient(s)

#### LD50 and LC50 Data:

Petroleum (8002-05-9)
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LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
<b>Naphthalene (91-20-3)</b>	
LD50 Oral Rat	533 - 710 mg/kg
LC50 Inhalation Rat	> 340 mg/m <sup>3</sup> (Exposure time: 1 h)
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
LD50 Oral Rat	> 5000 mg/kg
LC50 Inhalation Rat	27.57 mg/l/4h
ATE US/CA (dermal)	1,100.00 mg/kg body weight
ATE US/CA (vapors)	11.00 mg/l/4h
<b>Toluene (108-88-3)</b>	
LD50 Oral Rat	2600 mg/kg
LD50 Dermal Rabbit	12000 mg/kg
LC50 Inhalation Rat	25.7 mg/l/4h
<b>Ethylbenzene (100-41-4)</b>	
LD50 Oral Rat	3500 mg/kg
LD50 Dermal Rabbit	15400 mg/kg
LC50 Inhalation Rat	17.2 mg/l/4h (Exposure time: 4 h)
<b>Hydrogen sulfide (7783-06-4)</b>	
LC50 Inhalation Rat	444 ppm/4h
<b>Sulfur (7704-34-9)</b>	
LD50 Oral Rat	> 3000 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
LC50 Inhalation Rat	> 9.23 mg/l/4h
<b>Petroleum (8002-05-9)</b>	
IARC Group	3
<b>Naphthalene (91-20-3)</b>	
IARC Group	2B
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
IARC Group	3
<b>Toluene (108-88-3)</b>	
IARC Group	3
<b>Ethylbenzene (100-41-4)</b>	
IARC Group	2B
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity.
OSHA Hazard Communication Carcinogen List	In OSHA Hazard Communication Carcinogen list.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Ecology - General: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

<b>Petroleum (8002-05-9)</b>	
LC50 Fish 1	7.1 mg/l (Species: Pimephales promelas, Exposure time 96 h)
LC50 Other Aquatic Organisms 1	2.7 mg/l LL50 96 hr (Kelp forest mysid shrimp)
EC50 Daphnia 1	6.9 mg/l (Exposure time: 48 h)
<b>Naphthalene (91-20-3)</b>	
LC50 Fish 1	5.74 - 6.44 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2.16 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	1.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

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<b>EC50 Daphnia 2</b>	1.96 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through])
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
<b>LC50 Fish 1</b>	3.3 mg/l
<b>EC50 Daphnia 1</b>	3.82 mg/l (Exposure time: 48 h - Species: water flea)
<b>LC50 Fish 2</b>	2.661 (2.661 - 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
<b>NOEC Chronic Crustacea</b>	1.17
<b>Toluene (108-88-3)</b>	
<b>LC50 Fish 1</b>	15.22 (15.22 - 19.05) mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
<b>EC50 Daphnia 1</b>	5.46 (5.46 - 9.83) mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>LC50 Fish 2</b>	12.6 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
<b>EC50 Daphnia 2</b>	11.5 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>NOEC Chronic Fish</b>	1.4 mg/l (Oncorhynchus kisutch)
<b>NOEC Chronic Crustacea</b>	0.74 mg/l (Ceriodaphnia dubia)
<b>Ethylbenzene (100-41-4)</b>	
<b>LC50 Fish 1</b>	11.0 - 18.0 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
<b>EC50 Daphnia 1</b>	1.8 - 2.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>LC50 Fish 2</b>	4.2 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
<b>NOEC Chronic Crustacea</b>	0.956 mg/l
<b>Hydrogen sulfide (7783-06-4)</b>	
<b>LC50 Fish 1</b>	0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
<b>LC50 Fish 2</b>	0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
<b>Sulfur (7704-34-9)</b>	
<b>LC50 Fish 1</b>	866 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])
<b>EC50 Daphnia 1</b>	736 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>LC50 Fish 2</b>	14 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

### 12.2. Persistence and Degradability

<b>Crude Oil Sour</b>	
<b>Persistence and Degradability</b>	May cause long-term adverse effects in the environment.

### 12.3. Bioaccumulative Potential

<b>Crude Oil Sour</b>	
<b>Bioaccumulative Potential</b>	Not established.
<b>Naphthalene (91-20-3)</b>	
<b>BCF Fish 1</b>	30 - 430
<b>Log Pow</b>	3.6
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
<b>BCF Fish 1</b>	0.6 (0.6 - 15)
<b>Log Pow</b>	2.77 - 3.15
<b>Toluene (108-88-3)</b>	
<b>Log Pow</b>	2.7
<b>Ethylbenzene (100-41-4)</b>	
<b>BCF Fish 1</b>	15
<b>Log Pow</b>	3.2
<b>Hydrogen sulfide (7783-06-4)</b>	
<b>BCF Fish 1</b>	(no bioaccumulation expected)
<b>Log Pow</b>	0.45 (at 25 °C)

### 12.4. Mobility in Soil

Not available

### 12.5. Other Adverse Effects

**Other Information:** Avoid release to the environment.

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## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

**Additional Information:** Handle empty containers with care because residual vapors are flammable.

**Ecology - Waste Materials:** Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

## SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

### 14.1. In Accordance with DOT

**Proper Shipping Name** : PETROLEUM CRUDE OIL  
**Hazard Class** : 3  
**Identification Number** : UN1267  
**Label Codes** : 3  
**Packing Group** : II  
**Marine Pollutant** : Marine pollutant  
**ERG Number** : 128



### 14.2. In Accordance with IMDG

**Proper Shipping Name** : PETROLEUM CRUDE OIL  
**Hazard Class** : 3  
**Identification Number** : UN1267  
**Label Codes** : 3  
**Packing Group** : II  
**EmS-No. (Fire)** : F-E  
**EmS-No. (Spillage)** : S-E  
**Marine pollutant** : Marine pollutant



### 14.3. In Accordance with IATA

**Proper Shipping Name** : PETROLEUM CRUDE OIL  
**Identification Number** : 3  
**Hazard Class** : UN1267  
**Label Codes** : 3  
**Packing Group** : II  
**ERG Code (IATA)** : 3L



### 14.4. In Accordance with TDG

**Proper Shipping Name** : PETROLEUM CRUDE OIL  
**Hazard Class** : 3  
**Identification Number** : UN1267  
**Label Codes** : 3  
**Packing Group** : II  
**Marine Pollutant (TDG)** : Marine pollutant



## SECTION 15: REGULATORY INFORMATION

### 15.1. US Federal Regulations

Crude Oil Sour	
SARA Section 311/312 Hazard Classes	Health hazard - Serious eye damage or eye irritation Health hazard - Specific target organ toxicity (single or repeated exposure) Health hazard - Aspiration hazard Health hazard - Carcinogenicity Health hazard - Acute toxicity (any route of exposure) Health hazard - Reproductive toxicity

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	Health hazard - Skin corrosion or Irritation Physical hazard - Flammable (gases, aerosols, liquids, or solids)
<b>Petroleum (8002-05-9)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Naphthalene (91-20-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	100 lb
<b>SARA Section 313 - Emission Reporting</b>	0.1 %
<b>Xylenes (o-, m-, p- isomers) (1330-20-7)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	100 lb
<b>SARA Section 313 - Emission Reporting</b>	1 %
<b>Toluene (108-88-3)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	1000 lb
<b>SARA Section 313 - Emission Reporting</b>	1 %
<b>Ethylbenzene (100-41-4)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	1000 lb
<b>SARA Section 313 - Emission Reporting</b>	0.1 %
<b>Hydrogen sulfide (7783-06-4)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
<b>CERCLA RQ</b>	100 lb
<b>SARA Section 302 Threshold Planning Quantity (TPQ)</b>	500 lb
<b>SARA Section 313 - Emission Reporting</b>	1 %
<b>Sulfur (7704-34-9)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

### 15.2. US State Regulations

<b>Naphthalene (91-20-3)</b>	
<b>U.S. - California - Proposition 65 - Carcinogens List</b>	WARNING: This product contains chemicals known to the State of California to cause cancer.
<b>Toluene (108-88-3)</b>	
<b>U.S. - California - Proposition 65 - Developmental Toxicity</b>	WARNING: This product contains chemicals known to the State of California to cause birth defects.
<b>Ethylbenzene (100-41-4)</b>	
<b>U.S. - California - Proposition 65 - Carcinogens List</b>	WARNING: This product contains chemicals known to the State of California to cause cancer.
<b>Petroleum (8002-05-9)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	
<b>Naphthalene (91-20-3)</b>	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List	

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U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Xylenes (o-, m-, p- isomers) (1330-20-7)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Toluene (108-88-3)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Ethylbenzene (100-41-4)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Hydrogen sulfide (7783-06-4)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List  
U.S. - Pennsylvania - RTK (Right to Know) List

### **Sulfur (7704-34-9)**

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## 15.3. Canadian Regulations

### **Petroleum (8002-05-9)**

Listed on the Canadian DSL (Domestic Substances List)

### **Naphthalene (91-20-3)**

Listed on the Canadian DSL (Domestic Substances List)

### **Xylenes (o-, m-, p- isomers) (1330-20-7)**

Listed on the Canadian DSL (Domestic Substances List)

### **Toluene (108-88-3)**

Listed on the Canadian DSL (Domestic Substances List)

### **Ethylbenzene (100-41-4)**

Listed on the Canadian DSL (Domestic Substances List)

### **Hydrogen sulfide (7783-06-4)**

Listed on the Canadian DSL (Domestic Substances List)

### **Sulfur (7704-34-9)**

Listed on the Canadian DSL (Domestic Substances List)

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Date of Preparation or Latest** : 10/23/2018

**Revision**

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

**GHS Full Text Phrases:**

Acute Tox. 2 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 2
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# Crude Oil Sour SDS No: 6608

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 4
Acute Tox. 4 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Comb. Dust	Combustible Dust
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 1	Flammable liquids Category 1
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Flam. Sol. 2	Flammable solids Category 2
Press. Gas (Liq.)	Gases under pressure Liquefied gas
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H224	Extremely flammable liquid and vapor
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H228	Flammable solid
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H350	May cause cancer
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life

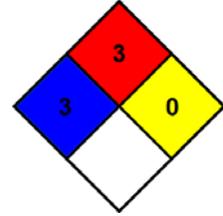
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## Safety Data Sheet

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H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

- NFPA Health Hazard** : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
- NFPA Fire Hazard** : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
- NFPA Reactivity Hazard** : 0 - Material that in themselves are normally stable, even under fire conditions.



*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

NA GHS SDS 2015 (Can, US)